DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 07/01/08 have been fully considered but they are not persuasive. As to Applicant's arguments regarding claims 1-11, 19, 30 and 40-43 Examiner respectfully disagrees. The combination of Hui and Chaiang teaches the limitations as claimed. The encoding quality measure and picture complexity combine to produce the frame quality which contributes to the determining of the target bit rate. [fig. 3 (320, 324, 316); col. 12 line 24-33] Hui teaches the compressed moving picture will meet the target bit rate using a virtual buffer to ensure the maximum bit rate of the output stream is not violated. One of ordinary skill in the art understand this is accomplished by the transmit buffer overflow detection (virtual buffer verification). Regarding arguments concerning claims 12-22, the reference reads upon the limitations as claimed. Arguments regarding 23-33 and 34-45 Examiner respectfully disagrees the references read upon the limitations as claimed. Simpson discloses the deletion of motion vectors under control of the rate controller. [fig. 1 (18); fig. 2 (118); col. 5 lines 5-59; col. 3 line 66 - col. 4 line 25].

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1, 9-11, 23-26, and 40 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Hui US 6,654,417 B1 in view Chiang et al. (Chiang), A new rate
Control Scheme Using Quadratic Rate Distortion Model, IEEE, 1996, pgs. 73-76.

4.   As to claim 1, Hui teaches a picture analyzer, to generate complexity indicators
from each picture of an input video sequence; [fig. 2 (216); fig. 3 (316-317); col. 9 lines
38-47; col. 12 lines 24-33] a first quantizer estimator to generate a first quantizer
estimate for each picture based on the complexity indicators, [fig. 2; fig. 3; col. 9 lines
12-60; col. 12 lines 24-47] a target coding rate calculated for each picture and a transmit
buffer fullness indicator representing a quantity of stored previously-coded video data;
[Fig. 2; fig. 3; col. 13 lines 7-33; col. 9 lines 4-60] a second quantizer estimator, to
generate a second quantizer estimate for each picture, the second quantizer estimates
for I and P pictures based on coding rates of previously-coded pictures; [fig. 2; fig. 3;
col. 9 lines 12-60; col. 12 lines 24-47] and a quantizer selector to generate a quantizer
parameter for each picture from the first and second quantizer estimates. [fig. 2; fig. 3;
col. 9 lines 12-60; col. 10 lines 3-23; col. 12 lines 24-47]

Hui is silent as to the use of linear regression regarding a quantizer.

Chiang teaches linear regression in determining a quantizer value. [abstract; 1.
Introduction ¶ 1; 5. Rate Control for the MPEG-4 Coder]

It would have been obvious to one of ordinary skill in the art at the time the
invention was made to incorporate the linear regression teachings of Chiang with the
device of Hui improving image quality and coding efficiency.

5.   As to claim 9, Hui (modified by Chiang) teaches the complexity indicator includes an indicator of spatial complexity within the picture. [Hui - fig. 2; fig. 3; col. 9 lines 38-47; col. 12 lines 12-33]

6.   As to claim 10, Hui (modified by Chiang) teaches the complexity indicator includes an indicator of motion complexity of the picture with respect to previously coded pictures. [Hui - fig. 2; fig. 3; col. 9 lines 38-47; col. 12 lines 12-33]

7.   As to claim 11, Hui (modified by Chiang) teaches the complexity indicator includes an indicator of a number of bits used to represent each pixel in the picture. [Hui - fig. 2; fig. 3; col. 9 lines 38-47; col. 12 lines 12-33]

8.   As to claim 23, Hui (modified by Chiang) teaches a content characteristics and coding rate analyzer, responsive to pictures from an input video sequence, to generate complexity indicators representative thereof, [Hui - fig. 2 (216); fig. 3 (316-317); col. 9 lines 38-47; col. 12 lines 24-33] a rate model quantizer estimator, responsive to quantizers and coding rates of previously-coded pictures and to picture type indicators of input pictures, to estimate quantizer parameters of the input pictures [Hui - fig. 2; fig. 3; col. 9 lines 12-60; col. 12 lines 24-47] according to a linear regression analysis, wherein linear regression [Chiang - abstract; 1. Introduction ¶ 1; 5. Rate Control for the MPEG-4 Coder] coefficients of input I pictures are selected according to the complexity indicators for such I pictures, an AVC coder including a forward quantizer operative according to the quantizer estimates. [Fig. 2; fig. 3; col. 13 lines 7-33; col. 9 lines 4-60]

9.   As to claim 24, see discussion of claim 9 above.

10.   As to claim 25, see discussion of claim 10 above.

11.   As to claim 26, see discussion of claim 11 above.

12.   As to claim 40, see discussion of claim 1 above.

13.   Claims 2, 8, 27 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 in view Chiang et al. (Chiang), A new rate Control Scheme Using Quadratic Rate Distortion Model, IEEE, 1996, pgs. 73-76 and further in view of Kim US 5,777,812 .

14.   As to claim 2, Hui (modified by Chiang) teaches the limitations of claim 1.

Hui (modified by Chiang) is silent as a transform scaler, coupled to the forward quantizer, a forward scan unit, coupled to the transform scaler, a variable length coder, coupled to the forward scan unit, and a formatter, coupled to the variable length coder.

 Kim teaches a transform scaler, coupled to the forward quantizer, a forward scan unit, coupled to the transform scaler, a variable length coder, coupled to the forward scan unit, and a formatter, coupled to the variable length coder. [fig. 6; col. 5 line 64 – col. 6 line 7]

 It would have obvious to one of ordinary skill in the art to incorporate the teachings of Kim with the device of Hui (modified by Chiang) to allow for improved image coding and quality.

15.   As to claim 8, Hui (modified by Chiang and Kim) teaches a spatial predictor that predicts video data for a block of input data according to intra prediction techniques, a temporal predictor that predicts video data for the block of input data according to temporal predictions between a current picture and one or more previously coded reference frames, [Hui - figs. 2-3; col. 1lines 30-53; col. 5 lines 58-67; col. 6 lines 8-21]

and a mode selector that selects an output from one of the spatial predictor or the temporal predictor for each block of input data, wherein the mode selector performs its selection based on mode decision control signals from the coding policy unit. [Hui - figs. 2-3; col. 1 lines 30-53; col. 5 lines 58-67; col. 6 lines 8-21]

16.   As to claim 27, see discussion of claim 2 above.

17.   As to claim 33, see discussion of claim 8 above.

18.   Claims 3, 28 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 in view Chiang et al. (Chiang), A new rate Control Scheme Using Quadratic Rate Distortion Model, IEEE, 1996, pgs. 73-76 in view of Kim US 5,777,812 further in view of Simpson et al. (Simpson) US 6,724,817 B1.

19.   As to claim 3, Hui (modified by Chiang and Kim) the limitations of claim 2.

Hui (modified by Chiang and Kim) is silent as to eliminate non-zero quantized transform coefficients according to a rate control policy, and wherein the AVC coder further comprises a coefficient zeroer provided between the forward quantizer and the transform scaler, responsive to control from the coding policy unit, to eliminate selected quantized transform coefficients.

Simpson teaches to eliminate non-zero quantized transform coefficients according to a rate control policy, and wherein the AVC coder further comprises a coefficient zeroer provided between the forward quantizer and the transform scaler, responsive to control from the coding policy unit, to eliminate selected quantized transform coefficients. [fig. 1 (18); fig. 2 (118); col. 5 lines 5-59; col. 3 line 66 - col. 4 line 25]

It would have been obvious to one of ordinary skill in the art to combine the teachings of Simpson with the device of Hui (modified by Chiang and Kim) improving coding efficiency.

20.   As to claim 28, see discussion of claim 3 above.

21.   As to claim 41, see discussion of claim 3 above.

22.   Claims 4, 5, 29-30 and 42-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 in view Chiang et al. (Chiang), A new rate Control Scheme Using Quadratic Rate Distortion Model, IEEE, 1996, pgs. 73-76 in view of Kim US 5,777,812 further in view of Simpson et al. (Simpson) US 6,724,817 B1 and further in view of Sugiyama US 6,940,911 B2.

23.   As to claim 4, Hui (modified by Chiang) teaches The rate and quality control system of claim 2.

 Hui (modified by Chiang and Kim) is silent as to a coding policy unit, to determine when it becomes necessary to eliminate pictures from the video sequence from being coded according to a rate control policy, and a video preprocessing unit, responsive to control from the coding policy unit, to perform frame decimation before pictures are input to the AVC coder.

 Simpson teaches a coding policy unit, to determine when it becomes necessary to eliminate pictures from the video sequence from being coded according to a rate control policy. [fig. 1 (18); fig. 2 (118); col. 5 lines 5-59; col. 3 line 66 - col. 4 line 25]

It would have been obvious to one of ordinary skill in the art to combine the teachings of Simpson with the device of Hui (modified by Chiang and Kim) improving coding efficiency.

Hui (modified by Chiang, Kim and Simpson) is silent as to a video preprocessing unit, responsive to control from the coding policy unit, to perform frame decimation before pictures are input to the AVC coder.

Sugiyama teaches a video preprocessing unit, responsive to control from the coding policy unit, to perform frame decimation before pictures are input to the AVC coder. [fig. 1; fig. 7; fig. 11; fig. 14; col. 15 lines 10-19, 61-67; col. 16 lines 3-7]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sugiyama with the device of Hui modified by Chiang, Kim and Simpson allowing for improved of the image quality.

24.   As to claim 5, Hui (modified by Chiang, Kim, Simpson and Sugiyama) teaches the limitations of claim 2, further comprising a coding policy unit, to determine when it becomes necessary to eliminate motion vectors according to a rate control policy, [Simpson - fig. 1 (18); fig. 2 (118); col. 5 lines 5-59; col. 3 line 66 - col. 4 line 25] and wherein the AVC coder includes a prediction circuit that generates motion vectors for prediction of video data of macroblocks in the input pictures and of video data for sub-blocks therein of various sizes, the prediction circuit responsive to control from the coding policy unit, to eliminate selected motion vectors from an output coded bitstream. [Simpson - fig. 1 (18); fig. 2 (118); col. 5 lines 5-59; col. 3 line 66 - col. 4 line 25; Sugiyama - Fig. 7; Fig. 11; Fig. 14; Col. 15 lines 10-19, 61-67; Col. 16 lines 3-7]

25.   As to claim 29, see discussion of claim 4 above.

26.   As to claim 30, see discussion of claim 5 above.

27.   As to claim 42, see discussion of claim 4 above.

28.   As to claim 43, see discussion of claim 5 above.

29.   Claims 6-7, 31 and 32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hui US 6,654,417 B1 in view Chiang et al. (Chiang), A new rate

Control Scheme Using Quadratic Rate Distortion Model, IEEE, 1996, pgs. 73-76 further

in view of Kim US 5,777,812 and further in view of Tsuru US 6,950,040 B2.

30.   As to claim 6, Hui (modified by Chiang and Kim) teaches the limitations of claim

2.

 Hui (modified by Chiang and Kim) is silent as to a deblocking filter.

 Tsuru teaches a deblocking filter. [fig. 2; col. 6 lines 3-12]

 It would have been obvious at the time the invention was made to combine the

deblocking filtering teachings of Tsuru with the device of Hui (modified by Chiang and

Kim) improving image quality.

31.   As to claim 7, Hui (modified by Chiang, Kim and Tsuru) the coding policy unit

calculates alpha and beta control parameters to be used by an H.264 deblocking filter.

[fig. 2; col. 1 lines 12-15; col. 6 lines 3-12; well known in the art that alpha and beta

parameters are used in deblocking]

32.   As to claim 31, see discussion of claim 6 above.

33.   As to claim 32, see discussion of claim 7 above.

34.   Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hui US 6,654,417 B1.

35.   As to claim 12, Hui teaches a content characteristics and coding rate analyzer,

responsive to pictures from an input video sequence, to generate complexity indicators

representative thereof, [fig. 2; fig. 3; col. 9 lines 12-60; col. 12 lines 24-47] a target bits

computer, responsive to the complexity indicators and to a picture type signal, to

calculate a target coding rate for each picture in the video sequence, [fig. 2; fig. 3; col. 9

lines 12-60; col. 11 lines 40-65; col. 12 lines 24-47; col. 13 lines 8-30] a buffer based

quantizer computer, responsive to the target coding rates, to a transmit buffer indicator

signal and to the picture type signal, to generate a buffer-based quantizer estimate for

each picture, and an activity based quantizer computer to calculate activity of each

picture in the video sequence and modify the buffer-based quantizer estimate in

response thereto, an AVC coder including a forward quantizer operative according to

the modified buffer-based quantizer estimate. [Fig. 2; fig. 3; col. 13 lines 7-33; col. 9

lines 4-60; col. 12 lines 24-47]

36.   As to claim 13, Hui teaches the complexity indicator includes an indicator of

spatial complexity within the picture. [Hui - fig. 2; fig. 3; col. 9 lines 38-47; col. 12 lines

12-33]

37.   As to claim 14, Hui teaches the complexity indicator includes an indicator of

motion complexity of the picture with respect to previously coded pictures. [Hui - fig. 2;

fig. 3; col. 9 lines 38-47; col. 12 lines 12-33]

38.   As to claim 15, Hui teaches the complexity indicator includes an indicator of a number of bits used to represent each pixel in the picture. [Hui - fig. 2; fig. 3; col. 9 lines 38-47; col. 12 lines 12-33]

39.   Claims 16 and 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 in view of Kim US 5,777,812.

40.   As to claim 16, Hui teaches an integer approximated transform circuit, to generate transform coefficients from input pixel data, the forward quantizer to divide the transform coefficients according to the modified buffer-based quantizer estimate, [Hui - fig. 2; fig. 3; col. 9 lines 12-60; col. 10 lines 3-23; col. 12 lines 24-47]

Hui is silent as to a transform scaler, coupled to the forward quantizer, a forward scan unit, coupled to the transform scaler, a variable length coder, coupled to the forward scan unit, and a formatter, coupled to the variable length coder.

Kim teaches a transform scaler, coupled to the forward quantizer, a forward scan unit, coupled to the transform scaler, a variable length coder, coupled to the forward scan unit, and a formatter, coupled to the variable length coder. [Kim - fig. 6; col. 5 line 64 – col. 6 line 7]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Kim with the device of Hui to allow for improved coding efficiency and image quality.

41.   As to claim 22, Hui teaches a spatial predictor that predicts video data for a block of input data according to intra prediction techniques, a temporal predictor that predicts video data for the block of input data according to temporal predictions between a

current picture and one or more previously coded reference frames, [Hui - figs. 2-3; col. 1lines 30-53; col. 5 lines 58-67; col. 6 lines 8-21] and a mode selector that selects an output from one of the spatial predictor or the temporal predictor for each block of input data, wherein the mode selector performs its selection based on mode decision control signals from the coding policy unit. [Hui - figs. 2-3; col. 1 lines 30-53; col. 5 lines 58-67; col. 6 lines 8-21]

42.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 in view of Kim US 5,777,812 further in view of Simpson et al. (Simpson) US 6,724,817 B1.

43.   As to claim 17 Hui (modified by) the limitations of claim 16.

Hui (modified by) is silent as to eliminate non-zero quantized transform coefficients according to a rate control policy, and wherein the AVC coder further comprises a coefficient zeroer provided between the forward quantizer and the transform scaler, responsive to control from the coding policy unit, to eliminate selected quantized transform coefficients.

Simpson teaches to eliminate non-zero quantized transform coefficients according to a rate control policy, and wherein the AVC coder further comprises a coefficient zeroer provided between the forward quantizer and the transform scaler, responsive to control from the coding policy unit, to eliminate selected quantized transform coefficients. [fig. 1 (18); fig. 2 (118); col. 5 lines 5-59; col. 3 line 66 - col. 4 line 25]

It would have been obvious to one of ordinary skill in the art to combine the teachings of Simpson with the device of Hui (modified by Chiang and Kim) improving coding efficiency.

44.   Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 in view of Kim US 5,777,812 and further in view of Sugiyama US 6,940,911 B2.

As to claim 18, Hui (modified by Kim) teaches the limitations of claim 16,

Hui (modified by Kim) is silent as to a coding policy unit, to determine when it becomes necessary to eliminate pictures from the video sequence from being coded according to a rate control policy, and a video preprocessing unit, responsive to control from the coding policy unit, to perform frame decimation before pictures are input to the AVC coder.

Sugiyama teaches a coding policy unit, to determine when it becomes necessary to eliminate pictures from the video sequence from being coded according to a rate control policy, and a video preprocessing unit, responsive to control from the coding policy unit, to perform frame decimation before pictures are input to the AVC coder. [Fig. 7; Fig. 11; Fig. 14; Col. 15 lines 10-19, 61-67; Col. 16 lines 3-7]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Sugiyama with the device of Hui modified by Kim allowing for improving of the image quality.

45.   As to claim 19, Hui (modified by Kim and Sugiyama) a coding policy unit, to determine when it becomes necessary to eliminate motion vectors according to a rate

control policy, and wherein the AVC coder includes a prediction circuit that generates motion vectors for prediction of video data of macroblocks in the input pictures and of video data for sub-blocks therein of various sizes, the prediction circuit responsive to control from the coding policy unit, to eliminate selected motion vectors from an output coded bitstream. [Sugiyama - Fig. 7; Fig. 11; Fig. 14; Col. 15 lines 10-19, 61-67; Col. 16 lines 3-7]

46.   Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 in view of Kim US 5,777,812 and further in view of Tsuru US 6,950,040 B2.

47.   As to claim 20, Hui (modified by Kim) teaches the limitations of claim 16.

 Hui (modified by Chiang and Kim) is silent as to a deblocking filter.

 Tsuru teaches a deblocking filter. [fig. 2; col. 6 lines 3-12]

 It would have been obvious at the time the invention was made to combine the deblocking filtering teachings of Tsuru with the device of Hui (modified by Kim) improving image quality.

48.   As to claim 21 Hui (modified by Kim and Tsuru) the coding policy unit calculates alpha and beta control parameters to be used by an H.264 deblocking filter. [fig. 2; col. 1 lines 12-15; col. 6 lines 3-12; well known in the art that alpha and beta parameters are used in deblocking]

49.   Claims 34, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 in view of Sugiyama US 6,940,911 B2 further in view of Simpson et al. (Simpson) US 6,724,817 B1.

50.   As to claim 34, Hui teaches a rate controller having an input coupled to a source of video data and generating a quantizer selection on a picture-by-picture basis, [figs. 2-3; abstract; col. 5 lines 50-57; col. 9 lines 12-22; col. 12 lines 13-47] a video prediction chain to generate predicted video data on a block-by-block basis, [col. 12 lines 13-39; figs. 2-3; col. 5 lines 58-67; col. 8 lines 43-51] and a quantizer to receive data output from the transform circuit, the quantizer operative according to a quantizer parameter output from the rate controller. [figs. 2-3; abstract; col. 5 lines 50-57; col. 9 lines 12-22; col. 12 lines 13-47]

Hui is silent as to a block-based video coding chain including: a subtractor coupled to the source video data and to the video prediction chain, a transform circuit, to receive data output from the subtractor.

Sugiyama teaches a block-based video coding chain including: a subtractor coupled to the source video data and to the video prediction chain, a transform circuit, to receive data output from the subtractor. [fig. 1; figs. 6-7; col. 10 lines 52-67; col. 14 lines 42-50; col. 15 lines 1-22]

It would have been obvious to one of ordinary skill in the art at the time the invention was made incorporate the teachings of Sugiyama teaches with the device of Hui to improve image quality and coding efficiency.

Wherein the video coding chain deletes motion vectors under control of the rate controller. [Simpson - fig. 1 (18); fig. 2 (118); col. 5 lines 5-59; col. 3 line 66 - col. 4 line 25]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to Simpson with the device of Hui (modified by Sugiyama) allowing for improved data transmission. [col. 1 lines 15-27]

51.   As to claim 38, Hui (modified by Sugiyama) teaches video prediction chain comprises a prediction mode decision unit whose mode of operation is controlled by the rate controller. [Hui - figs. 2-3; col. 1 lines 30-53; col. 5 lines 58-67; col. 6 lines 8-21; Sugiyama - fig. 1; figs. 6-7; fig. 11; fig. 14; col. 10 lines 52-67; col. 14 lines 42-50; col. 15 lines 1-22, 61-67; col. 16 lines 3-7]

52.   As to claim 39, Hui (modified by Sugiyama) teaches a video preprocessor that performs picture decimation under control of the rate controller. [Sugiyama - Fig. 7; Fig. 11; Fig. 14; Col. 15 lines 10-19, 61-67; Col. 16 lines 3-7]

53.   Claim 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 further in view of Sugiyama US 6,940,911 B2 further in view of Simpson et al. (Simpson) US 6,724,817 B1.

54.   As to claim 35, Hui (modified by Sugiyama) teaches the limitations of claim 34.

Hui (modified by Sugiyama) is silent as to the video coding chain further deletes transform coefficients under control of the rate controller.

Simpson teaches the video coding chain further deletes transform coefficients under control of the rate controller. [Simpson - fig. 1 (18); fig. 2 (118); col. 5 lines 5-59; col. 3 line 66 - col. 4 line 25]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to Simpson with the device of Hui (modified by Sugiyama) allowing for improved data transmission. [col. 1 lines 15-27]

55.   Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hui US 6,654,417 B1 further in view of Sugiyama US 6,940,911 B2 further in view of Tsuru US 6,950,040 B2.

56.   As to claim 37, Hui (modified by Sugiyama) teach the limitations of claim 34.

Hui (modified by Sugiyama) silent as to the video prediction chain comprises a deblocking filter whose mode of operation is controlled by the rate controller

Tsuru teaches the video prediction chain comprises a deblocking filter whose mode of operation is controlled by the rate controller. [fig. 2; col. 1 lines 12-15; col. 6 lines 3-12]

It would have been obvious at the time the invention was made to combine the deblocking filtering teachings of Tsuru with the device of Hui (modified by Chiang and Kim) improving image quality.

Conclusion

57.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNER HOLDER whose telephone number is (571)270-1549. The examiner can normally be reached on M-Th, M-F 8 am - 3 pm EST.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418.   The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/
Examiner, Art Unit 2621 10/13/08

/Tung Vo/

Primary Examiner, Art Unit 2621